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- (c) Soil removal and stockpiling operations on prime farmland shall be conducted to—
- (1) Separately remove the topsoil, or remove other suitable soil materials where such other soil materials will create a final soil having a greater productive capacity than that which exist prior to mining. If not utilized immediately, this material shall be placed in stockpiles separate from the spoil and all other excavated materials; and
- (2) Separately remove the B or C soil horizon or other suitable soil material to provide the thickness of suitable soil required by §823.14(b), except as approved by the regulatory authority where the B or C soil horizons would not otherwise be removed and where soil capabilities can be retained. If not utilized immediately, each horizon or other material shall be stockpiled separately from the spoil and all other excavated materials. Where combinations of such soil materials created by mixing have been shown to be equally or more favorable for plant growth than the B horizon, separate handling is not necessary.
- (d) Stockpiles shall be placed within the permit area where they will not be disturbed or be subject to excessive erosion. If left in place for more than 30 days, stockpiles shall meet the requirements of §816.22 or §817.22 of this chapter.

[48 FR 21463, May 12, 1983, as amended at 53 FR 40839, Oct. 18, 1988]

§823.14 Soil replacement.

- (a) Soil reconstruction specifications established by the U.S. Soil Conservation Service shall be based upon the standards of the National Cooperative Soil Survey and shall include, as a minimum, physical and chemical characteristics of reconstructed soils and soil descriptions containing soil-horizon depths, soil densities, soil pH, and other specifications such that reconstructed soils will have the capability of achieving levels of yield equal to, or higher than, those of nomined prime farmland in the surrounding area.
- (b) The minimum depth of soil and substitute soil material to be reconstructed shall be 48 inches, or a lesser depth equal to the depth to a subsurface horizon in the natural soil that

inhibits or prevents root penetration, or a greater depth if determined necessary to restore the original soil productive capacity. Soil horizons shall be considered as inhibiting or preventing root penetration if their physical or chemical properties or water-supplying capacities cause them to restrict or prevent penetration by roots of plants common to the vicinity of the permit area and if these properties or capacities have little or no beneficial effect on soil productive capacity.

- (c) The operator shall replace and regrade the soil horizons or other rootzone material with proper compaction and uniform depth.
- (d) The operator shall replace the B horizon, C horizon, or other suitable material specified in §823.12(c)(2) to the thickness needed to meet the requirements of paragraph (b) of this section. In those areas where the B or C horizons were not removed but may have been compacted or otherwise damaged during the mining operation, the operator shall engage in deep tilling or other appropriate means to restore premining capabilities.
- (e) The operator shall replace the topsoil or other suitable soil materials specified in §823.12(c)(1) as the final surface soil layer. This surface soil layer shall equal or exceed the thickness of the original surface soil layer, as determined by the soil survey.

 $[48\ {\rm FR}\ 21463,\ {\rm May}\ 12,\ 1983,\ {\rm as}\ {\rm amended}\ {\rm at}\ 53\ {\rm FR}\ 40839,\ {\rm Oct.}\ 18,\ 1988]$

§823.15 Revegetation and restoration of soil productivity.

- (a) Following prime farmland soil replacement, the soil surface shall be stabilized with a vegetative cover or other means that effectively controls soil loss by wind and water erosion.
- (b) Prime farmland soil productivity shall be restored in accordance with the following provisions:
- (1) Measurement of soil productivity shall be initiated within 10 years after completion of soil replacement.
- (2) Soil productivity shall be measured on a representative sample or on all of the mined and reclaimed prime farmland area using the reference crop determined under paragraph (b)(6) of this section. A statistically valid sampling technique at a 90-percent or